



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

ARTHUR P. FRAAS

Application No.: 08/835,419

Filed: April 9, 1997

Title: PRETREATMENT PROCESS TO REMOVE OXYGEN FROM COAL EN ROUTE TO A COAL PYROLYSIS PROCESS AS A MEANS OF IMPROVING THE QUALITY OF THE HYDROCARBON LIQUID PRODUCT

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#### REQUEST FOR REHEARING

To the Director of the Patent and Trademark Office

Sir:

#### REMARKS

Applicant appreciates the reversal of the Examiner's rejections of claims 7, 8, 17 and 18. However, applicant respectfully requests that this Board reconsider the sustaining of the Examiner's rejections of claims 1-4, 6, 9, 11-14, 16, 19, 22 and 23 over the Selep reference.

The Board indicates inherency in steam. While Selep does use steam, the steam used in Selep is merely used for stripping the blades of coal that may cling to the blades (Col. 5, ll. 66-68). The steam is merely used to remove coal from the blades; it is not functional in any other way. Thus, Selep's use of steam is irrelevant to the doctrine of inherency in this case. Selep's use of steam does not suggest the use of preheating or oxygen removal. Selep teaches away from preheating. Selep merely uses a small jet (64) of gas containing no free oxygen, such as steam, to strip the blades of coal. This process has no bearing on Applicant's invention and cannot be used

to support a claim of inherency because it is impossible for Selep's use of steam to even heat the coal particles. Selep's steam is merely used to clean the blades of clinged coal. The coal particles are already gone at the time the steam is used to clean the blades of any clinged coal particles.

Selep's stripping steam cannot be used to preheat coal because coal, except that sticking to the blade, is *already gone*.

Moreover, Selep does not describe removing oxygen from coal particles. Selep describes only not adding oxygen.

The present invention preheats a bed of coal to drive off oxygen and then removes the driven-off oxygen. Selep describes only air locks. Air locks are not pretreatment vessels or preheaters.

Furthermore, the preheating of the bed is vastly different from the references use of a blast of steam to clean sticking particles from vanes.

The reference leads away from preheating coal or oxygen removal from preheated coal, neither of which is mentioned. Indeed, the reference teaches away from preheating or a preheating vessel because the coal is delivered directly to the kiln 12. Selep never preheats a bed of coal. Selep does not teach or describe oxygen removal. Selep merely uses a gas containing no free oxygen (steam) to clean the blades of any clinged coal particles. Selep does not describe or teach oxygen removal of coal particles. Selep only uses gas containing no free oxygen, steam, as a source for port 64 where steam is admitted through port 64 to strip the blades of coal that may be clinging to the blades. (Col. 4, ll. 20-26 and Col. 5, ll. 66-68.) Selep neither teaches nor describes preheating or oxygen removal.

The Board attempted to add a new reference, Hawley's definitions. But Hawley's leads away from the invention because it never mentions pre-treatment or preheating a bed of coal to

below pyrolysis temperatures in a pretreatment vessel. Hawley's leads away from inherency.

Moreover, a new ground of rejection requires specific procedures with the Board.

There is nothing inherent or reasonable to conclude from Selep that would have anticipated or rendered obvious the elements of:

- Claim 1's      pretreatment apparatus
  - a pretreatment vessel
  - a preheater
  - heating a bed to below pyrolysis temperature
  - an enclosure around the vessel
  - an oxygen remover
  - transporting oxygen away from the pretreatment vessel enclosure
- Claim 2's      inlet and outlet from a pretreatment vessel
- Claim 3's      pyrolysis retort near the pretreatment vessel and passages to transfer heated coal between the pretreatment vessel and the pyrolysis retort
- Claim 4's      pretreatment vessel as a dryer
- Claim 6's      sweep gas inlet and outlet to remove oxygen from the vessel
- Claim 9's      carbon monoxide source connected to the sweep gas inlet
- Claim 11's      pretreatment process
  - heating the coal and removing oxygen before pyrolysis
- Claim 12's      inputting coal particles to a pretreatment vessel
  - removing particles from the vessel
- Claim 13's      transferring heated coal particles from the vessel to a pyrolysis retort

Claim 14's removing the moisture from the coal

Claim 16's contacting the coal in the bed with an oxygen removal gas  
removing the oxygen removal gas with the oxygen removed from  
the coal particles

Claim 19's supplying carbon monoxide to the bed of coal particles  
removing oxygen from the coal particles with the carbon monoxide

Claim 22's coal pyrolysis pretreatment  
pretreatment vessel as a holder  
heating the bed to a temperature below the pyrolysis temperature  
preventing air from contacting particles in an enclosure around the vessel  
removing the oxygen released from the heated particles  
transporting the coal away from the enclosure  
keeping the partial pressure of oxygen in the pretreatment region low

Selep cannot support the argument that Selep's injection of steam necessarily preheats the coal particles and the injection of nitrogen removes the oxygen. The purpose of Selep's injection of steam is to strip the blades of coal, not to preheat them. Regardless, such injection of steam, as in Selep, is not preheating.

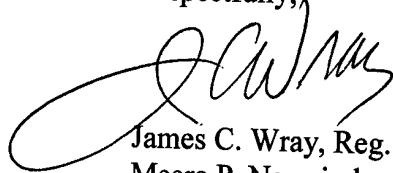
In Kalman v. Kimberly-Clark, cited by the Board, the CCPA upheld the district court's finding of validity. The decision in Kalman is *dicta as to inherency*.

In re Fracalossi, cited by the Board, does not justify finding elements in a reference where there are none. In Fracalossi, Judge Markey was simply approving using § 103 as a base when § 102 anticipation was the real grounds of rejection.

### CONCLUSION

Applicant respectfully requests the Board reconsider and reverse the Examiner on claims 1-4, 6, 9, 11-14, 16, 19, 22 and 23.

Respectfully,



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